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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/825,276	04/03/2001	Matthew P.J. Baker	GB 000044	3764

24737 7590 02/06/2006

PHILIPS INTELLECTUAL PROPERTY & STANDARDS
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EXAMINER	
MATTIS, JASON E	

ART UNIT	PAPER NUMBER
2665	

DATE MAILED: 02/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/825,276	BAKER ET AL.	
	Examiner	Art Unit	
	Jason E. Mattis	2665	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 November 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3 and 5-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *5,14,16 and 18* is/are allowed.

6)☒ Claim(s) *1-3,6-13,15,17 and 19-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is in response to the Request for Continued Examination filed 11/22/05. Claim 4 has been cancelled. New claims 19-21 have been added. Claims 1-3 and 5-21 are currently pending in the application.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 10-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to claims 10-12, each of these claims contains a limitation of choosing a type of signaling "based on a quantity to be" or "according to a quantity to be signaled". It is unclear what exactly is meant by "a quantity to be signaled" within the scope of the claims. Claims 1 and 2, which these claims depend on contain a variety of different messages that are signaled (for example, the power level used for transmitting, the determined radio channel characteristics, etc.). It is recommended that these claims be amended such that is clear what exactly is being signaled. For example, claims 14 and 16 include a limitation that a preamble is offset in time corresponding to "the radio channel characteristics, and claim 18 includes a limitation that a timing offset is used

"adjust a subsequent transmit level". It is recommend that claims 10-12 be amended to contain language that is similar to the language found in claims 14, 16, and 18.

Claim Rejections - 35 USC § 103

4. Claims 1, 3, 7, 9, 13, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Park et al. (WO 00/08706) in view of Feder et al. (U.S. Publication US 2005/0239491 A1).

With respect to claim 1, Park et al. discloses a method of operating a radio communication system that includes a downlink channel for transmission by a primary station at least one secondary station and an uplink access channel for transmission from the secondary station to the primary station **(See page 1 lines 13-22 and Figure 1 of Park et al. for reference to a base station, which is a primary station, transmitting downlink reference pilot channels and other channels to a mobile station, which is a secondary station, that transmits uplink access channels, reverse pilot channels, and other channels to the base station)**. Park et al. also discloses the secondary station transmitting an uplink signal on the uplink access channel giving an indication of the radio channel characteristics **(See page 7 lines 8-23 and Figure 2 of Park et al. for reference to the mobile station generating an access channel message including the received strength of the pilot channel signal, which is a radio channel characteristic, to the base station on an access**

channel in step 216). Park et al. further discloses the primary station transmitting a signal on the downlink channel at a power level which takes into account the indication of the radio channel characteristics **(See page 7 lines 8-23 and Figure 2 of Park et al. for reference to the base station sending signals on the forward link channel with the initial transmission power determined based on the indicated radio channel characteristics in step 220)**. Although Park et al. does disclose transmitting pilot signal from the primary station to the secondary station **(See page 7 lines 8-23 and Figure 2 of Park et al. for reference to transmitting the pilot channel signal from the base station to the mobile station in step 212)**, Park et al. does not disclose transmitting a signal from the primary station to the secondary station that includes an indication of a transmit power level and determining radio channel characteristics of the downlink channel at the secondary station based on the indication of the transmit power level.

With respect to claim 3, Park et al. discloses the secondary station measuring the received signal strength associated with the first signal determining the radio channel characteristics of the downlink based on the received signal strength **(See page 7 lines 8-23 and Figure 2 of Park et al. for reference to the mobile station receiving the fixed forward link pilot channel signal sent in step 212, measuring the received signal strength in step 214, and transmitting an access channel message including the received strength to the base station on an access channel in step 216)**. Park et al. does not disclose that the radio channel characteristics are determined based on the indication of the transmit power level.

With respect to claim 13, Park et al. discloses a radio communication system comprising a primary base station that includes a first transceiver that is configured to transmit signals on a downlink channel and at least one secondary station that includes a second transceiver that is configured to receive and transmit uplink signals to the primary station on an access channel **(See page 1 lines 13-22 and Figure 1 of Park et al. for reference to a base station, which is a primary station, transmitting downlink reference pilot channels and other channels to a mobile station, which is a secondary station, that transmits uplink access channels, reverse pilot channels, and other channels to the base station)**. Park et al. also discloses the secondary station a measuring device that is configured to determine radio characteristics of the random access channel and for transmitting these characteristics to the primary station **(See page 7 lines 8-23 and Figure 2 of Park et al. for reference to the mobile station receiving the fixed forward link pilot channel signal sent in step 212, measuring the received signal strength, which is a radio channel characteristic, in step 214, and transmitting an access channel message including the received strength to the base station on an access channel in step 216)**. Park et al. further discloses that the primary station is configured to determine the power level of a downlink signal in dependence on the radio channel characteristics **(See page 7 lines 8-23 and Figure 2 of Park et al. for reference to the base station using the signal sent in step 216 to determine the signal strength of the random access channel in step 218 and for reference to in step 220, the base station sending signals on the forward link channel to the mobile station with the initial**

transmission power determined in step 218). Park et al. does not disclose transmitting a signal from the primary station to the secondary station that includes an indication of a transmit power level and determining radio channel characteristics of the downlink channel at the secondary station based on the indication of the transmit power level.

With respect to claim 15, Park et al. discloses a secondary station comprising a transceiver that is configured to received downlink signals transmitted from a primary station and to transmit uplink signals on an access channel **(See page 1 lines 13-22 and Figure 1 of Park et al. for reference to a base station, which is a primary station, transmitting downlink reference pilot channels and other channels to a mobile station, which is a secondary station, that transmits uplink access channels, reverse pilot channels, and other channels to the base station)**. Park et al. also discloses a measuring device that is configured to determine radio channel characteristics of the downlink channel and transmitting these characteristics on an uplink signal **(See page 7 lines 8-23 and Figure 2 of Park et al. for reference to the mobile station receiving the fixed forward link pilot channel signal sent in step 212, measuring the received signal strength, which is a radio channel characteristic, in step 214, and transmitting an access channel message including the received strength to the base station on an access channel in step 216)**. Park et al. also discloses that the uplink signal is a first communication to which the transmitting of the downlink signal is responsive **(See page 7 lines 8-23 and Figure 2 of Park et al. for reference to the base station sending the signal on the forward**

link channel, in step 220, in response to receiving the signal from the mobile station, in step 216). Park et al. does not disclose determining radio channel characteristics of the downlink channel at the secondary station based on an indicator of transmit power from the primary station.

With respect to claims 1, 3, 13, and 15, Feder et al., in the field of communications, discloses transmitting a signal from a primary station to a secondary station that includes an indication of a transmit power level and determining radio channel characteristics of the downlink channel at the secondary station based on the indication of the transmit power level **(See page 4 paragraph 25 and Figure 2 of Feder et al. for reference to an AP, which is a primary station, transmitting a beacon signaling to a WM, which is a secondary station, with the beacon signal including transmitted power level, and for reference to the WM calculating a SNR, which is a radio channel characteristic, based on the transmitted power level)**. Transmitting a signal from a primary station to a secondary station that includes an indication of a transmit power level and determining radio channel characteristics of the downlink channel at the secondary station based on the indication of the transmit power level has the advantage of allowing a secondary station to determine the signal-to-noise ratio of the downlink channel such that this information may be used by the secondary station to determine an appropriate power level for it to transmit messages to the primary station **(See page 4 paragraph 25 and Figure 2 of Feder et al. for reference to using a determined SNR based on the advertised power level of the AP and**

using the determined SNR to determine a power level at which to transmit signals from the WM).

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Feder et al., to combine transmitting a signal from a primary station to a secondary station that includes an indication of a transmit power level and determining radio channel characteristics of the downlink channel at the secondary station based on the indication of the transmit power level, as suggested by Feder et al., with the system and method of Park et al., with the motivation being to allow a secondary station to determine the signal-to-noise ratio of the downlink channel such that this information may be used by the secondary station to determine an appropriate power level for it to transmit messages to the primary station.

With respect to claim 7 (as depending on claim 1), Park et al. discloses that the channel characteristics include a radio attenuation characteristic **(See page 7 lines 8-23 and Figure 2 of Park et al. for reference to the mobile station determining the received signal strength of the pilot signal and the total received power of the entire signals, which indicate a radio attenuation characteristic, in step 214, and transmitting an access channel message including the received strength to the base station on an access channel in step 216)**.

With respect to claim 9 (as depending on claim 1), Park et al. discloses that the uplink signal includes a message part of the uplink access channel signal **(See page 7 liens 8-23 and Figure 2 of Park et al. for reference to the uplink signal sent**

from the mobile station to the base station in step 216 comprising a message part of the access channel signal).

5. Claims 2, 7, 9-10, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Park et al. in view of Knutson et al. (U.S. Pat. 6434365).

With respect to claim 2, Park et al. discloses a method of operating a radio communication system that includes a downlink channel for transmission by a primary station to at least one secondary station and an uplink access channel for transmission from the secondary station to the primary station **(See page 1 lines 13-22 and Figure 1 of Park et al. for reference to a base station, which is a primary station, transmitting downlink reference pilot channels and other channels to a mobile station, which is a secondary station, that transmits uplink access channels, reverse pilot channels, and other channels to the base station)**. Park et al. also discloses the secondary station transmitting an uplink signal on the random access channel **(See page 7 lines 8-23 and Figure 2 of Park et al. for reference to the mobile station generating an access channel message including the received strength of the pilot channel signal to the base station on an access channel in step 216)**. Park et al. further discloses that the uplink signal can be used by the primary station to determine the prevailing radio channel characteristics of the random access channel **(See page 7 lines 8-23 and Figure 2 of Park et al. for reference to the base station using the signal sent in step 216 to determine the signal strength of the random access channel in step 218)**. Park et al. also transmitting a signal from the

primary station on the downlink channel at a power level which takes into account the radio channel characteristics **(See page 7 lines 8-23 and Figure 2 of Park et al. for reference to, in step 220, the base station sending signals on the forward link channel to the mobile station with the initial transmission power determined in step 218)**. Park et al. does not disclose that the uplink signal includes an indication of a transmit power level used for transmitting the uplink signal and that the radio channel characteristics are determined based on the indication of the transmit power level.

With respect to claim 17, Park et al. discloses a primary station comprising a transceiver that is configured to transmit signals on a downlink channel to at least one secondary station and to received uplink access channel signals **(See page 1 lines 13-22 and Figure 1 of Park et al. for reference to a base station, which is a primary station, transmitting downlink reference pilot channels and other channels to a mobile station, which is a secondary station, that transmits uplink access channels, reverse pilot channels, and other channels to the base station)**. Park et al. also discloses a measuring device that is configured to determine a power level to transmit downlink signals to the at least one secondary station based on information received from the secondary station **(See page 2 lines 8-23 and Figure 2 of Park et al. for reference to using information sent from a mobile station, in step 216, to determine radio channel characteristics and an initial transmission power for a signal to be sent to the mobile station in step 218)**. Park et al. does not disclose that the uplink access channel signal includes an indication of a transmit power level associated with the signal.

With respect to claims 2 and 17, Knutson et al., in the field of communications discloses an uplink signal including an indication of a transmit power level used for transmitting the uplink signal and determining radio channel characteristics based on the indication of the transmit power level **(See column 3 line 19 to column 4 line 2 and Figure 2 of Knutson et al. for reference to transmitting a data packet 220 from a handset, which is a secondary station, to a base station, which is a primary station, with the data packet 220 including a 4-bit power level field 227, which is an indication of the power level that the packet was transmitted at, and for reference to using this power level to determine radio channel characteristics)**. Using an uplink signal including an indication of a transmit power level used for transmitting the uplink signal and determining radio channel characteristics based on the indication of the transmit power level has the advantage of allowing a primary station to be able to quickly determine the power level at which received packets were transmitted such that the primary station may easily instruct a secondary station to either increase or decrease transmitter power based on radio channel characteristics **(See column 5 line 66 to column 6 line 4 for reference to using power level information to fine tune and establish optimal power levels)**.

It would have been obvious for one or ordinary skill in the art at the time of the invention, when presented with the work of Knutson et al., to combine using an uplink signal including an indication of a transmit power level used for transmitting the uplink signal and determining radio channel characteristics based on the indication of the transmit power level, as suggested by Knutson et al., with the system and method of

Park et al., with the motivation being to allow a primary station to be able to quickly determine the power level at which received packets were transmitted such that the primary station may easily instruct a secondary station to either increase or decrease transmitter power based on radio channel characteristics.

With respect to claim 7 (as depending on claim 2), Park et al. discloses that the channel characteristics include a radio attenuation characteristic **(See page 7 lines 8-23 and Figure 2 of Park et al. for reference to the mobile station determining the received signal strength of the pilot signal and the total received power of the entire signals, which indicate a radio attenuation characteristic, in step 214, and transmitting an access channel message including the received strength to the base station on an access channel in step 216)**.

With respect to claim 9 (as depending on claim 2), Park et al. discloses that the uplink signal includes a message part of the uplink access channel signal **(See page 7 liens 8-23 and Figure 2 of Park et al. for reference to the uplink signal sent from the mobile station to the base station in step 216 comprising a message part of the access channel signal)**.

With respect to claim 10 (as depending on claim 2), Park et al. does not disclose transmitting uplink access preambles that are encoded with a selected one of a plurality of signatures with the selected signature being chosen according to a quantity to be signaled.

With respect to claim 10 (as depending on claim 2), Knutson et al., in the field of communications discloses access preambles that are encoded with a selected one of

a plurality of signatures with the selected signature being chosen according to a quantity to be signaled **(See column 3 line 19 to column 4 line 2 and Figure 2 of Knutson et al. for reference to transmitting a data packet 220 including a 4-bit power level field 227, which is a field that includes a 4-bit signature selected from a plurality of possible 4-bit signatures according to the transmit power level to be encoded)**. Using access preambles that are encoded with a selected one of a plurality of signatures with the selected signature being chosen according to a quantity to be signaled has the advantage of allowing values such as a transmit power level to be encoded in signals sent between stations.

It would have been obvious for one or ordinary skill in the art at the time of the invention, when presented with the work of Knutson et al., to combine using access preambles that are encoded with a selected one of a plurality of signatures with the selected signature being chosen according to a quantity to be signaled, as suggested by Knutson et al., with the system and method of Park et al., with the motivation being to allow values such as a transmit power level to be encoded in signals sent between stations.

6. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Park et al. in view of Feder et al. as applied to claims 1, 3, 7, 9, 13, and 15 above, and further in view of Knutson et al. and Cao et al. (EP 0 913 957 A1).

With respect to claim 6 (as depending on claim 1), the combination of Park et al. and Feder et al. does not disclose the secondary station retransmitting an access

preamble at successively increasing power levels until an acknowledgement signal is received from the primary station. The combination of Park et al. and Feder et al. also does not disclose each transmission including an indication of its power and the primary station determining radio channel characteristics based on the power of the signal received and acknowledged.

With respect to claims 6 (as depending on claim 1), Knutson et al., in the field of communications discloses an uplink signal including an indication of a transmit power level used for transmitting the uplink signal and determining radio channel characteristics based on the indication of the transmit power level **(See column 3 line 19 to column 4 line 2 and Figure 2 of Knutson et al. for reference to transmitting a data packet 220 from a handset, which is a secondary station, to a base station, which is a primary station, with the data packet 220 including a 4-bit power level field 227, which is an indication of the power level that the packet was transmitted at, and for reference to using this power level to determine radio channel characteristics)**. Using an uplink signal including an indication of a transmit power level used for transmitting the uplink signal and determining radio channel characteristics based on the indication of the transmit power level has the advantage of allowing a primary station to be able to quickly determine the power level at which received packets were transmitted such that the primary station may easily instruct a secondary station to either increase or decrease transmitter power based on radio channel characteristics **(See column 5 line 66 to column 6 line 4 for reference to using power level information to fine tune and establish optimal power levels)**.

It would have been obvious for one or ordinary skill in the art at the time of the invention, when presented with the work of Knutson et al., to combine using an uplink signal including an indication of a transmit power level used for transmitting the uplink signal and determining radio channel characteristics based on the indication of the transmit power level, as suggested by Knutson et al., with the system and method of Park et al. and Feder et al., with the motivation being to allow a primary station to be able to quickly determine the power level at which received packets were transmitted such that the primary station may easily instruct a secondary station to either increase or decrease transmitter power based on radio channel characteristics.

With respect to claim 6 (as depending on claim 1), Cao et al., in the field of communications, discloses a secondary station transmitting an access preamble signal at successively increasing power levels until an acknowledgement signal is received from the primary station **(See column 1 paragraph 2 of Cao et al. for reference to a mobile end-user device, which is a secondary station, broadcasting a request signal at increasing power levels until acknowledged by the base station)**. A secondary station transmitting an access preamble signal at successively increasing power levels until an acknowledgement signal is received from the primary station has the advantage of not creating an excess amount of interference by beginning transmission at a relatively low power so that other secondary stations in communication with the primary station do not get overpowered by the access preamble signal.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Cao et al., to combine a secondary station transmitting an access preamble signal at successively increasing power levels until an acknowledgement signal is received from the primary station, as suggested by Cao et al., with the power control system and method of Park et al., Feder et al., and Knutson et al., with the motivation being to not create an excess amount of interference by beginning transmission at a relatively low power so that other secondary stations in communication with the primary station do not get overpowered by the access preamble signal.

7. Claims 6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Park et al. in view of Knutson et al. as applied to claims 2, 7, 9-10, and 17 above, and further in view of Cao et al.

With respect to claim 6 (as depending on claim 2), the combination of Park et al. and Knutson et al. does not disclose the secondary station retransmitting an access preamble at successively increasing power levels until an acknowledgement signal is received from the primary station. Knutson et al. does disclose each transmission including an indication of its power and the primary station determining radio channel characteristics based on the power of the signal received and acknowledged, as described in the rejections above.

With respect to claim 6 (as depending on claim 2), Cao et al., in the field of communications, discloses a secondary station transmitting an access preamble signal

at successively increasing power levels until an acknowledgement signal is received from the primary station **(See column 1 paragraph 2 of Cao et al. for reference to a mobile end-user device, which is a secondary station, broadcasting a request signal at increasing power levels until acknowledged by the base station)**. A secondary station transmitting an access preamble signal at successively increasing power levels until an acknowledgement signal is received from the primary station has the advantage of not creating an excess amount of interference by beginning transmission at a relatively low power so that other secondary stations in communication with the primary station do not get overpowered by the access preamble signal.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Cao et al., to combine a secondary station transmitting an access preamble signal at successively increasing power levels until an acknowledgement signal is received from the primary station, as suggested by Cao et al., with the power control system and method of Park et al. and Knutson et al., with the motivation being to not create an excess amount of interference by beginning transmission at a relatively low power so that other secondary stations in communication with the primary station do not get overpowered by the access preamble signal.

With respect to claim 8 (as depending on claim 2), the combination of Park et al. and Knutson et al. does not disclose that the secondary station determines the signal

to interference ratio of a signal transmitted by the primary station and includes an indication of the determined SIR in a signal transmitted on the uplink access channel.

With respect to claim 8 (as depending on claim 2), Cao et al., in the field of communications, discloses a secondary station determining the SIR of a signal transmitted by a primary station and including the SIR in a signal transmitted to the primary station **(See column 4 paragraph 14 of Cao et al. for reference to a mobile station measuring the SIR of the broadcast control channel of the base station and for reference to the mobile station sending a random access channel request including information on the SIR measurement)**. A secondary station determining the SIR of a signal transmitted by a primary station and including the SIR in a signal transmitted to the primary station has the advantage of reducing the processing at the primary station by calculating the SIR at each of the secondary stations and transmitting the result to the primary station.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Cao et al., to combine a secondary station determining the SIR of a signal transmitted by a primary station and including the SIR in a signal transmitted to the primary station, as suggested by Cao et al., with power control system and method of Park et al. and Knutson et al., with the motivation being to reduce the processing at the primary station by calculating the SIR at each of the secondary stations and transmitting the result to the primary station.

8. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Park et al. in view of Feder et al. as applied to claims 1, 3, 7, 9, 13, and 15 above, and further in view of Cao et al.

With respect to claim 8 (as depending on claim 1), the combination of Park et al. and Feder et al. does not disclose that the secondary station determines the signal to interference ratio of a signal transmitted by the primary station and includes an indication of the determined SIR in a signal transmitted on the uplink access channel.

With respect to claim 8 (as depending on claim 1), Cao et al., in the field of communications, discloses a secondary station determining the SIR of a signal transmitted by a primary station and including the SIR in a signal transmitted to the primary station **(See column 4 paragraph 14 of Cao et al. for reference to a mobile station measuring the SIR of the broadcast control channel of the base station and for reference to the mobile station sending a random access channel request including information on the SIR measurement)**. A secondary station determining the SIR of a signal transmitted by a primary station and including the SIR in a signal transmitted to the primary station has the advantage of reducing the processing at the primary station by calculating the SIR at each of the secondary stations and transmitting the result to the primary station.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Cao et al., to combine a secondary station determining the SIR of a signal transmitted by a primary station and including the SIR in a signal transmitted to the primary station, as suggested by Cao et al., with power

control system and method of Park et al. and Feder et al., with the motivation being to reduce the processing at the primary station by calculating the SIR at each of the secondary stations and transmitting the result to the primary station.

9. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Park et al. in view of Feder et al. as applied to claims 1, 3, 7, 9, 13, and 15 above, and further in view of Knutson et al.

With respect to claim 10 (as depending on claim 1), the combination of Park et al. and Feder et al. does not disclose transmitting uplink access preambles that are encoded with a selected one of a plurality of signatures with the selected signature being chosen according to a quantity to be signaled.

With respect to claim 10 (as depending on claim 1), Knutson et al., in the field of communications discloses access preambles that are encoded with a selected one of a plurality of signatures with the selected signature being chosen according to a quantity to be signaled **(See column 3 line 19 to column 4 line 2 and Figure 2 of Knutson et al. for reference to transmitting a data packet 220 including a 4-bit power level field 227, which is a field that includes a 4-bit signature selected from a plurality of possible 4-bit signatures according to the transmit power level to be encoded)**. Using access preambles that are encoded with a selected one of a plurality of signatures with the selected signature being chosen according to a quantity to be signaled has the advantage of allowing values such as a transmit power level to be encoded in signals sent between stations.

It would have been obvious for one or ordinary skill in the art at the time of the invention, when presented with the work of Knutson et al., to combine using access preambles that are encoded with a selected one of a plurality of signatures with the selected signature being chosen according to a quantity to be signaled, as suggested by Knutson et al., with the system and method of Park et al. and Feder et al., with the motivation being to allow values such as a transmit power level to be encoded in signals sent between stations.

10. Claims 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cao et al. in view of Knutson et al.

With respect to claim 19, Cao et al. discloses a secondary station comprising a transceiver that is configured to repeatedly transmit an access preamble signal to a primary station at successively increasing power levels until an acknowledgement signal is received from a primary station **(See column 1 paragraph 2 of Cao et al. for reference to a mobile end-user device, which is a secondary station, broadcasting a request signal at increasing power levels until acknowledged by the base station)**. Cao et al. does not disclose communicating the power level associated with the access preamble signal associated with the acknowledgement signal to the primary station.

With respect to claim 20, Cao et al. does not disclose that each access preamble transmitted includes an indication of the power level associated with the access preamble signal.

With respect to claim 21, Cao et al. does not disclose that the transceiver communicates the power level in a message transmitted to the primary station upon receipt of the acknowledgement signal.

With respect to claims 19-21, Knutson et al., in the field of communications, discloses transmitting the transmission power of a signal sent from a secondary station to a primary station in every message sent from the secondary station to the primary station **(See column 3 line 19 to column 4 line 2 and Figure 2 of Knutson et al. for reference to transmitting using a format 210 that always includes a data packet 220 including a 4-bit power level field 227, which is an indication of the power level that the packet was transmitted at, meaning since every transmission includes this power level field 227, each preamble transmission will also include this field and each transmission after acknowledgement of the preamble transmission will also include this field)**. Using an uplink signal including an indication of a transmit power level used for transmitting the uplink signal has the advantage of allowing a primary station to be able to quickly determine the power level at which received packets were transmitted such that the primary station may easily instruct a secondary station to either increase or decrease transmitter power based on radio channel characteristics **(See column 5 line 66 to column 6 line 4 for reference to using power level information to fine tune and establish optimal power levels)**.

It would have been obvious for one or ordinary skill in the art at the time of the invention, when presented with the work of Knutson et al., to combine using an uplink signal including an indication of a transmit power level used for transmitting the uplink

signal, as suggested by Knutson et al., with the system and method of Cao et al.., with the motivation being to allow a primary station to be able to quickly determine the power level at which received packets were transmitted such that the primary station may easily instruct a secondary station to either increase or decrease transmitter power based on radio channel characteristics.

Allowable Subject Matter

11. Claims 5, 14, 16, and 18 are allowed.

12. Claims 11-12 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Response to Arguments

13. Applicant's arguments with respect to claims 1-3 and 5-21 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason E. Mattis whose telephone number is (571) 272-3154. The examiner can normally be reached on M-F 8AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571) 272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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